



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,292	11/03/2003	Gary Allen	10559-909001	5271
20985	7590	12/15/2005	EXAMINER	
FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EL SHAMMAA, MARY A	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

5/2

Office Action Summary	Application No.		Applicant(s)	
	10/701,292		ALLEN, GARY	
	Examiner		Art Unit	
	Mary A. El-Shammaa		2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 11-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 11-30 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 24, 2005. Thus, the restriction requirement is made **FINAL**.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitchell et al. (US 5,646,730).

Regarding claim 1, Mitchell discloses a system comprising an interference pattern generator to generate, at a first location, an interference pattern including an interference fringe; a spatial filter to limit, at least in part, the area at the first location actually illuminated by the interference pattern; and a positioner to displace the actually illuminated area across the first location in a direction crossing the interference fringe and to maintain a substantially constant position of the interference pattern relative to the first location despite the displacement (col. 2, line 30 through col. 3, line 55).

Regarding claim 2, Mitchell discloses the interference pattern generator generating an interference pattern to illuminate a substrate at the first location; the spatial filter is to limit the

Art Unit: 2883

area of the substrate actually illuminated by the interference pattern; and the positioner is to displace the actually illuminated area across the substrate in a direction crossing the interference fringe and to maintain the substantially constant position of the interference pattern relative to the substrate despite the displacement (col. 2, line 62 through col. 3, line 20).

Regarding claims 3 and 4, Mitchell discloses the positioner maintaining the position of the interference pattern relative to the first location constant to within 1% of the pitch of the interference pattern in the illuminated area (col. 2, line 30 through col. 3, line 55; col. 6, lines 15-30).

Regarding claim 5, Mitchell discloses the positioner comprising a first positioner to displace the interference pattern in a direction D relative to the spatial filter; and a second positioner to displace the substrate in a direction D relative to the spatial filter (col. 2, line 30 through col. 3, line 55).

Regarding claim 6, Mitchell discloses the positioner comprising a spatial filter positioner to displace the spatial filter relative to the interference pattern and the substrate (col. 2, line 30 through col. 3, line 55).

Regarding claim 7, Mitchell discloses a pitch controller to control a pitch of the interference pattern (col. 2, line 30 through col. 3, line 55 "precision positioner").

Regarding claim 8, Mitchell discloses the spatial filter comprising an aperture having a first dimension and a second dimension, the first dimension being greater than the second dimension and oriented to allow two or more wavefronts forming the interference pattern to illuminate the substrate at a substantially uniform angle (col. 2, line 30 through col. 3, line 55; col. 9, lines 36-49; col. 12, lines 1-8).

Regarding claim 9, Mitchell discloses the positioner comprising a closed loop control system to maintain the substantially constant position of the interference pattern relative to the first location (col. 2, line 30 through col. 3, line 55).

Regarding claim 10, Mitchell discloses the positioner displacing the actually illuminated area across the first location in a direction substantially perpendicular to the interference fringe (col. 2, line 30 through col. 3, line 55; col. 11, lines 50-58).

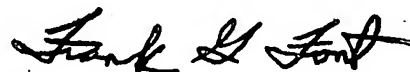
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary A. El-Shammaa whose telephone number is 571.272.2469. The examiner can normally be reached on M-F (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571.272.2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAE
December 9, 2005



Frank G. Font
Supervisory Patent Examiner
Technology Center 2800